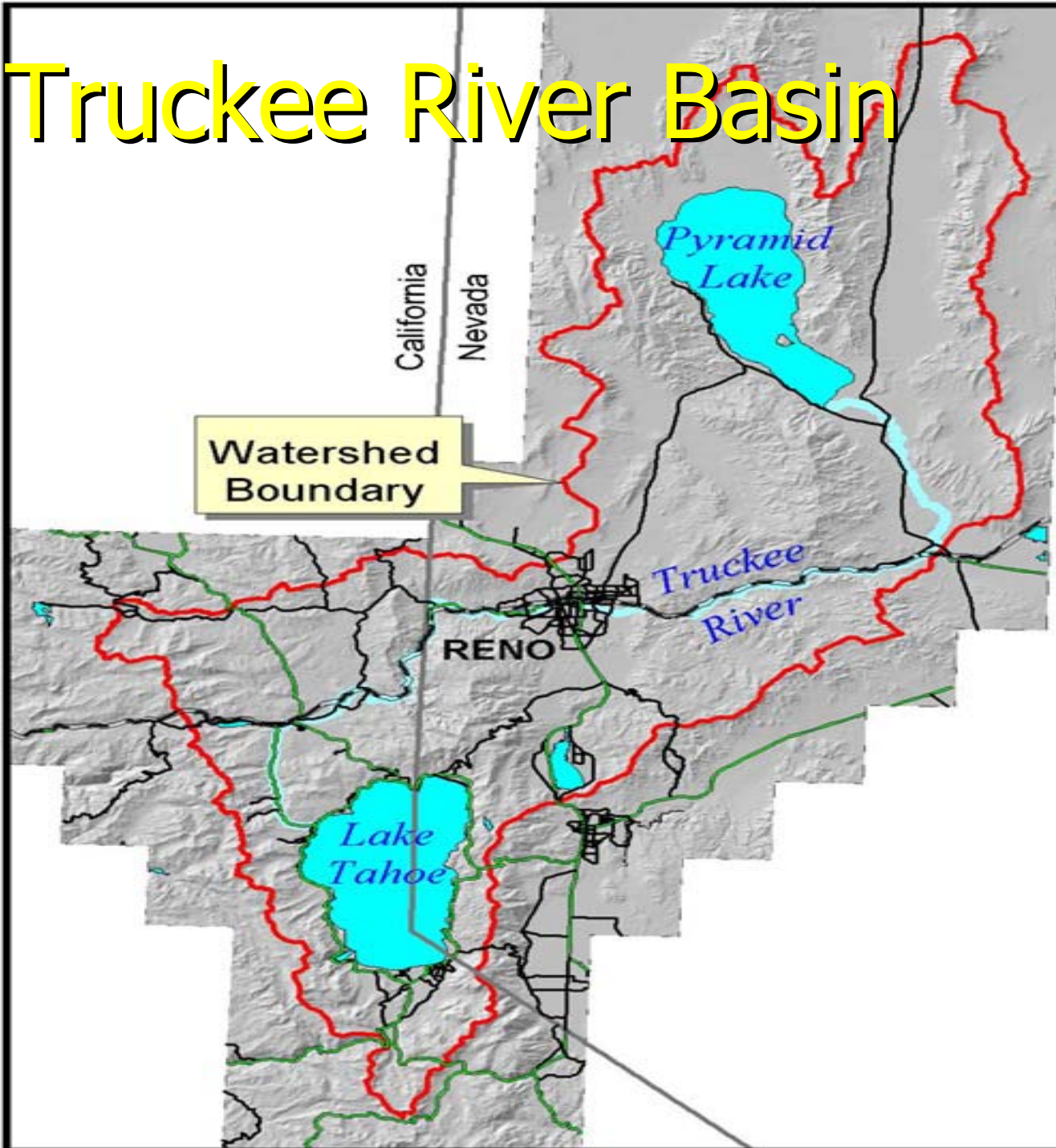


# Pyramid Lake Paiute Tribe Bioassessment Program Technical Issues

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Pyramid Lake Paiute Tribe

# Truckee River Basin





# Pyramid Lake





# Pyramid Lake, NV



5/7/1999

# Truckee River



2001 10 9



# Stone Mother



5/7/1999

CUI – UI (Kwee-wee)





Lahontan Cutthroat Trout





**27 pounder**

# Bio-Criteria

## ■ WQCP: Narrative Standards

### – Species Composition

Communities and populations of aquatic biota, including invertebrate, vertebrate and plant species, shall not be degraded as a result of point source or nonpoint source discharge. This applies to transient as well as cumulative conditions. Short-term variances from these objectives may be allowed for actions that are being taken to fulfill statutory requirements under Tribal law or the federal Endangered Species Act.



# Reference Sites



6/22/1999



# Reference Condition Process

- 1981. -LTR comprehensive survey.
- 1989 -Began using EPA RBA protocols.
- 1998 -Began attending workshops/ trainings, and develop working relationships with other agencies.
- 2002 -Began evaluating LTR BMI data.

# • Biotic Index Values

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- 0.0 – 3.5      Excellent (Pristine water)
- 3.5 – 4.5      Very Good Water Quality
- 4.5 – 5.5      Good WQ (some pollution)
- 5.5 – 7.0      Fair (Moderately polluted)
- 7.0 – 8.0      Poor (seriously polluted)
- 8.5 – 10.0      Very Poor (extremely  
polluted waters)

# Identifying Stressors:

- **•Point source:** Waste Water Treatment Plant
- **•Nonpoint Sources:** North-Tahoe Drain, Steamboat Creek, urban storm water runoff, and Irrigation return flows back into the river.
- **•Exotic Species:** Non-native salmonids, like Rainbow trout, compete and hybridize with native Lahontan Cutthroat trout (LCT). Brown and Rainbow trout are more aggressive, and effectively compete with LCT. Tall Whitetop, purpleloose strife, and the aquatic Eurasian watermilfoil are competing with native plants.



<b>Year</b>	<b>Sampling Method</b>	<b>Counting Method</b>
1981	Surber	Total
1982-1988	NO DATA	
1989	Surber	Total
1990	Surber	Total
1991	NO DATA	
1992	Kicknet	Estimated
1993	Kicknet	Estimated
1994	Surber	Presence/Absence
1995	Surber	Presence/Absence
1996	Surber	Total
1997	NO DATA	
1998	NO DATA	
1999	Surber	Total
2000	Surber	Total

NMDS

Axis 3

Axis 2

StationID

- △ AH
- ▲ CN
- ▽ DO
- ▼ FJR
- ◇ I80
- ◆ LNX
- MBD
- NB
- ND
- NIX
- × NW
- + SS
- Y WB

WB

NIX

NW

FJR

NB

SS

Scattered

I80

LNX

DO

ND

MBD

AH

CN

# The PLPT Biological Index consists of 4 core metrics:

Taxa Richness

Percent EPT Individuals

Percent Tolerant Individuals

Percent Dominant Taxon



Approximate Upstream Distance (miles) from MBD	Station ID	Year							Average
		1981	1989	1990	1996	1999	2000	2001*	
22.5	<b>I80</b>	63.6			39.3	43.6	47.0	51.2	48.9
20	WB		18.7	35.8	46.5				33.7
19	AH				47.0	51.2			49.1
17.5	<b>FJR</b>	52.8	25.1				59.4	51.2	47.1
14.5	SS				47.3				47.3
11.5	NW		38.9		80.8				59.9
10.5	<b>DO</b>	60.5	39.0	59.3		52.7	45.9	*	51.5
8	<b>CN</b>	34.2		50.5	51.7	45.5	47.9	*	45.9
6.5	ND				40.1				40.1
5	<b>LNx</b>	73.8		35.3		55.1	54.1	*	54.6
3.5	NB		28.3		63.3				45.8
2	<b>NIX</b>	71.0		45.4		57.6	50.1	*	56.1
0	MBD	58.2	16.3	44.7	45.5	25.6			38.1
Average		59.2	27.7	45.2	51.3	47.3	50.7	51.2	47.5

\*Only 2 of 6 sites for 2001 had been processed and ready for this analysis.

**BOLD** sites are sites that will be part of the future sampling scheme.

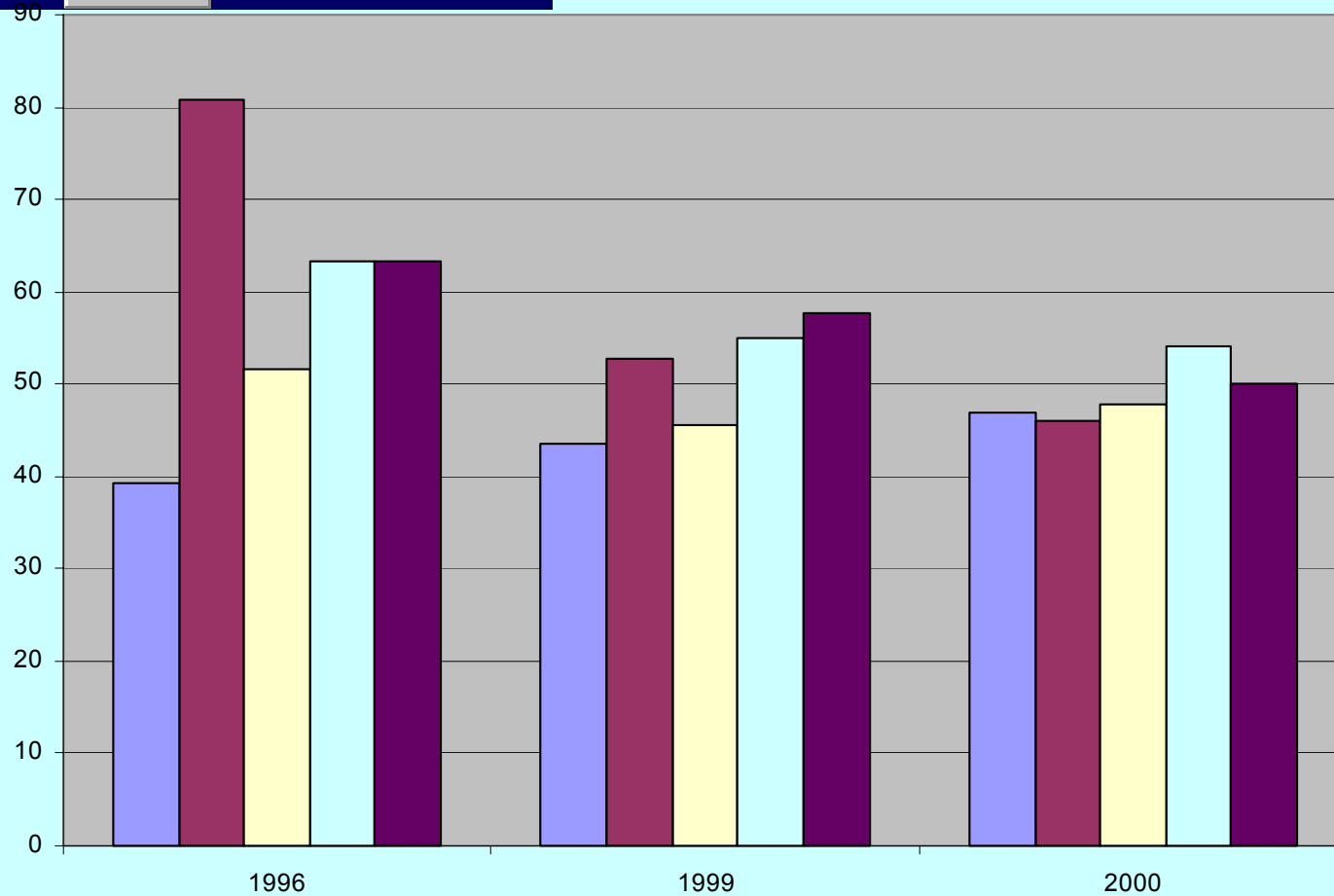
**PLPT Biological Index Score and Narrative Rating**

100-80	Excellent	69-60	Good	49-40	Poor
79-70	Very Good	59-50	Fair	39-0	Very Poor

# Spatial and Temporal Trends

MetricName PLPT Bio Index

Metric Value



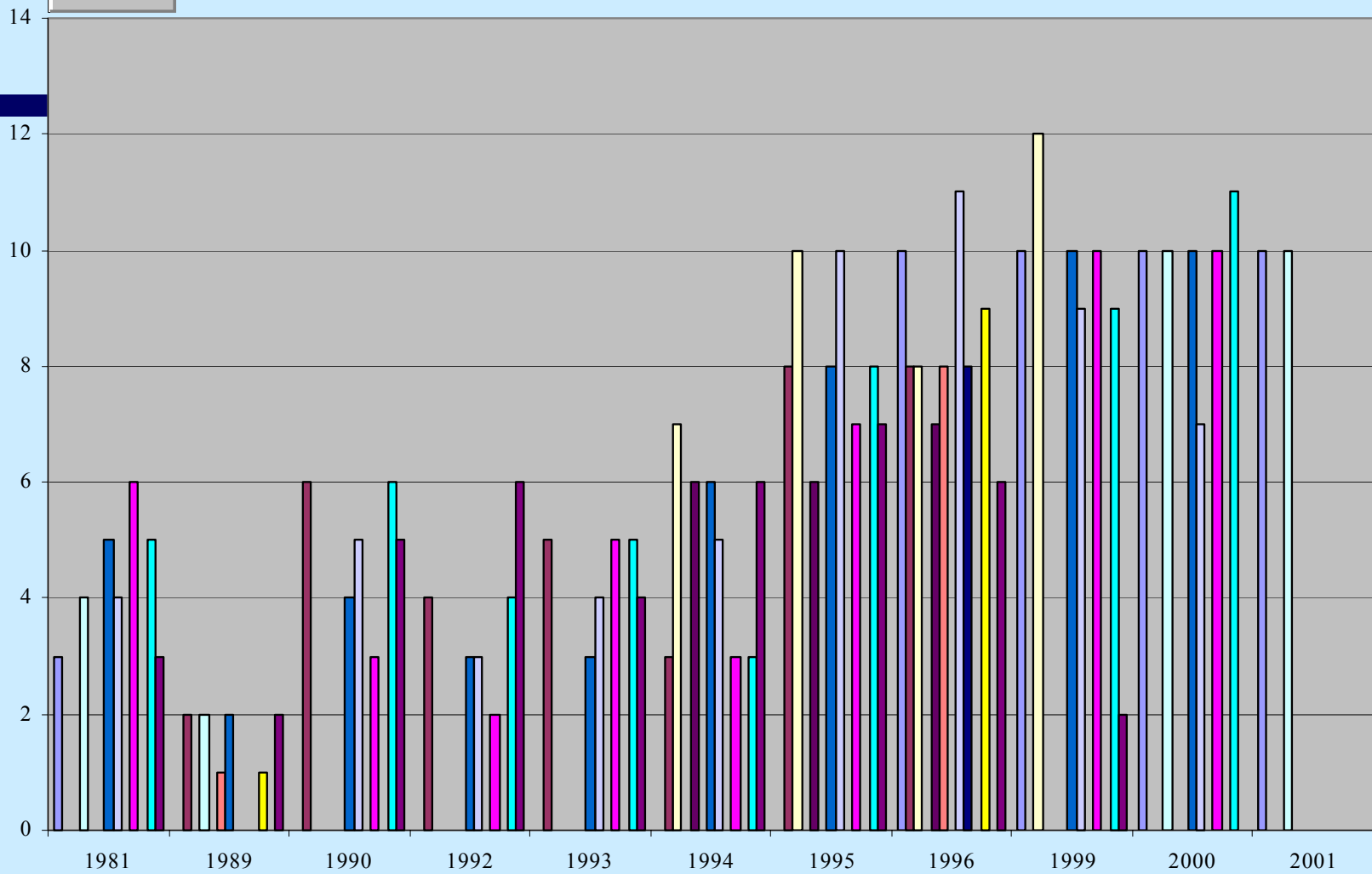
Station Location

- I80
- DO
- CN
- LNX
- NIX

SampYear

MetricName EPT Tax

Metric Value



- StationID
- I80
  - WB
  - AH
  - FJR
  - SS
  - NW
  - DO
  - CN
  - ND
  - LNX
  - NB
  - NIX
  - MBD

SampYear



# Taxa Frequency

Lower Truckee River (Dry/Wet YRS.)

